

**Amendments to the Specification:**

Please replace the paragraph beginning at page 4, line 24 to page 5, line 7 with the following rewritten paragraph:

Therefore, in one aspect of the invention there is provided a photonic crystal having a tunable photonic band structure, comprising;

a periodic composite dielectric material having at least two dielectric constituents including a first dielectric constituent having a first refractive index and a second dielectric constituent having a second refractive index smaller than the first refractive index so that the periodic composite dielectric material has a photonic band structure; and

at least one of said at least two dielectric constituents having refractive index properties which can be locally or globally changed throughout said photonic crystal in a controlled manner whereby changing the refractive index properties modulates said photonic band structure locally or globally throughout said photonic crystal for providing control of propagation of light through said photonic crystal. --